The
Florida Entomologist
Official Organ of the Florida Entomological Society

VOL. VIII AUTUMN NUMBER No. 2
September, 1924

AM. MUS.
10 NOV. 1924
ENTOM.

THE CHRYSOMELIDAE OF FLORIDA

By W. S. BLATCHLEY
Dunedin, Florida

(Continued from page 7)

XLII. Oedionychis Latreille.

Elongate-oval, glabrous species of medium size (4.5-7 mm.) and variable color, having the front coxal cavities open behind, elytral punctures confused, first joint of hind tarsus slender, last one globosely inflated. Adults occcur on flowers and foliage of various plants, especially Compositæ.

*150 (15865). **O. gibbitarsa** (Say).—"Enterprise and Cedar Keys, common" (Sz.). St. Augustine (Ham.). Pablo Beach, Sept. 5 (Davis Coll.). Moore Haven, Mch. 22 (Bl. 1923), swept from vegetation in marshy ground. All Florida specimens that I have seen have the elytra a deep cobalt-blue in hue, not greenish as in the North.

*151 (15867). **O. thoracica** (Fabr.).—Haulover, one specimen (Sz.). Crescent City (Sz. Ms.). L. Worth (Sl.). At hand from Gainesville and Dunedin, Nov.-Mch.; scarce about Dunedin, flying along the roads.

152 (15868). **O. vians** (Ill.).—"Common" (Sz.) St. Augustine (Ham.). No other State records.

*153 (15869). **O. concinna** (Fabr.)—"Rare" (Sz.). Crescent City (Wic.). At hand from Ormond, Palmdale and Dunedin, Feb.-Apr.; occurs beneath boards and other cover along the margins of ponds, one being dug out of the muck (Bl. 1914).

*154 (15873). **O. fimbriata** (Forst.).—Northern part of the State, south to Ft. Myers. Gainesville on oak, Apr. 18 (Wat.). At hand from Sarasota and Dunedin, Nov.-Apr.; taken on flowers of thistle and swept from tall grass along the sandy margins of ponds. All specimens seen are of the vittate variety formerly listed as *circumcincta* Cr.

*155. (15875). **O. petaurista** (Fabr.).—"Tampa, very rare" (Sz.). Crescent City and Haw Creek (Sz. Ms.): St. Augustine (Ham.): Ft.

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Myers (Wic.). Gainesville, eating strawberry leaf, Feb.; on bitter-weed, *Helenium*, Aug. (Wat.). Varies much in size (5.5-8 mm.) and width of dark stripes.

*156 (15877). **O. miniata** (Fabr.).—Northern part of State south to Ft. Myers. Frequent at Dunedin, Nov.-Apr., on dwarf huckleberry and other low vegetation.

*157. (15879). **O. ulkei** Horn, 1889, 188.—Type from "Florida." Haulover, Crescent City, Orange and Sumter Cos. (Sz. Ms.). Enterprise (Wic.). Dunedin, Feb. 24-Apr. 10; occurs on flowers of fetter-bush, *Desmothamnus nitidus* (Bartr.) and other Ericads in low damp woods (Bl. 1923).

158 (15883). **O. indigoptera** Lec., 1878, 416.—Type from Tampa. No other State record. "Occurs in Georgia and Florida" (Horn, 1889.)

*159 (——). **O. saltatra** Blatch., 1923, 32.—Types from Dunedin and Sanford. Frequent about Dunedin in spring on low herbage in moist ground; at porch light, June 15.

*160 (15887). **O. sexmaculata** (Ill.).—Enterprise, rare (Sz.). Gainesville, abundant on foliage of ash, Apr. 5 (Doz.). At hand from Sanford, Apr. 4. A common species in Indiana.

*161 (15888). **O. suturalis** (Fabr.).—Throughout the State, south to Ft. Myers. At hand from six stations. Frequent about Dunedin, hibernating in Spanish moss and occurring in spring on flowers of the gallberry, *Ilex glabra* (L.), and other shrubs.

162 (15869). **O. quercata** (Fabr.).—St. Augustine (Ham.); probably refers to the next; thorax wholly pale.

*162a (——). **O. quercata obsidiana** (Fabr.).—"Baldwin and Enterprise, common," (Sz.). Sanford, Mch. 30-Apr. 5 (Bl. 1923). This variety has the thorax piceous with explanate side margins pale. Leng places it as a synonym of *quercata*.

*163 (15890). **O. scalaris** Melsh.—Northern part of the State, south to L. Okeechobee. At hand from Sanford, Utopia and Istokpoga, Mch.-Apr.; occurs on low Ericads near margins of lakes.

XLIII. **Disonycha** Chevrolat.

Oblong or oval medium sized (4-7 mm.) beetles of varied hue, having the front coxal cavities open behind; thorax without a transverse basal impression; hind tibiae not grooved; first joint of hind tarsi short and rather broad, tarsal joints not inflated. The adults feed upon herbs of various kinds and feign death when disturbed.

164 (15895). **D. pennsylvanica** (Ill.).—"Common" (Sz.). Miami, Moore Haven and Orlando (Kn.). The only records of the typical form for the State. Perhaps apply to var. *parva*.

*164a (15895c). **D. pennsylvanica conjugata** (Fabr.).—Northern part of the State, south to Moore Haven and Ft. Myers. At hand from six stations and reported from many others. Common, where found, on various species of smart-weed, *Polygonum;* also beneath decaying stems of pickerel-weed on old pond sites.

*164b (——). **D. pennsylvanica parva** Blatch, 1921, 16.—Types from

Indiana and Sanford, Fla. At hand from Sanford, Pahoka, Palmdale and Dunedin, Mch.-Apr., from the muck and grass roots about the margins of cypress swamps. But little more than half the size of typical *pennsylvanica*, and probably a distinct species.

165 (15896). **D. quinquevittata** (Say.).—Schwarz in his Florida list records *D. punctigera* Lec. as "not rare." That name is made a synonym of *quinquevittata* by Horn (1889, 314). No other mention from the State.

166 (——). **D. fumata** Lec.—According to Schæffer (1919) the *D. crenicollis* (Say.) of Horn (1889) is this species. Under the latter name it is mentioned by Schwarz (Ms.) as occurring at Jacksonville.

*167 (15898). **D. caroliniana** (Fabr.).—Enterprise and Capron (Sz. Ms.). Lakeland, May 8 (Davis Coll.). At hand from L. Wales, Palmdale and Dunedin. Swept in some numbers, Mch. 28, from the flowers of a tall St. Johnswort at Palmdale. Rare at Dunedin on fetter-bush.

*168 (15901). **D. glabrata** (Fabr.).—Ormond, on oak (Bl. 1902); Dunedin Mch. 9, one specimen at each place. Gainesville, abundant on bull-thistle, Apr.; riddling the foliage of pig-weed, *Amaranthus*, May (Doz.). These the only State records.

169 (15902). **D. abbreviata** Melsh.—Recorded from numerous stations in the northern half of the State. Gainesville, sweeping low herbage Feb. 26 (Doz.); on golden-rod, Sept. (Wat.); these, in part at least, *Oedionychis petaurista* (Fabr.). Schæffer (Ms.) doubts the occurrence of the true *abbreviata* in Florida, but a specimen taken at Lake City, Apr. 18, is in the Gainesville collection.

*170 (15902a). **D. leptolineata** Blatch., 1917, 143.—Types from Dunedin; also taken at Lakeland and Istokpoga. Frequent on ferns in dense hammocks and cypress marshes; also hibernating beneath cover along the borders of ponds. Described as a variety of *abbreviata* but evidently a distinct species.

171 (15906). **D. triangularis** (Say).—Gainesville, Apr. 15; sweeping low foliage along a moist hammock edge, and hibernating under old logs (Doz.). The only State record.

172 (——). **D. albida** Blatch., 1924, 169.—Type in Davis collection; taken by him on Big Pine Key, Sept. 18.

173 (15907). **D. xanthomelæna** (Dalm.).—"Florida" (Horn, 1889). St. Augustine (Ham.) as *collaris* (Ill.), a synonym.

*174 (15910). **D. mellicollis** (Say.).—Capron (Sz. Ms.). LaGrange (Davis Coll.). Bradentown, Oct. (Wat.). At hand from Sanford, Lakeland and Dunedin, Feb.-Apr.; scarce at porch light and beneath cover.

*175 (15911). **D. collata** (Fabr.).—Common along the sea-coast, where it occurs beneath cover, between the roots of grass and on low vegetation close to the water. At hand from Key West and Dunedin. Recorded from many stations, but inland only from Enterprise (C. & L.).

XLIV. Argopistes Motschulsky.

Small (3 mm.), hemispherical black and red species resembling *Exochomus* in general appearance; antennae gradually clavate, front coxal cavities open behind.

*176 (15914). **A. scyrtoides** Lec., 1878, 416.—Types from "Florida." Jupiter, on oak; Miami (Sz. Ms.). At hand from Biscayne Bay, Mch. 18, taken by Mrs. Slosson. Mines the leaves of the Florida privet, *Forestiera porulosa* (Michx.) (Sz. Ms.).

XLV. **Haltica** Geoffroy.

Small oblong-oval, convex species (2-5 mm.), blue, dull yellow or bronzed in hue, having the front coxal cavities open behind; thorax with a transverse basal impression, this not limited at each end. The species are numerous and some of them are injurious to grape foliage and garden truck. The genus is a difficult one and there is much confusion of synonymy.

*177 (15917). **H. chalybea** Ill.—Throughout the State, recorded from numerous stations. At hand from seven, including Cape Sable. Common about Dunedin, Nov.-Apr., on foliage of wax myrtle, wild grape, etc., hibernating in bunches of Spanish moss and beneath loose bark. Gainesville, on plum blossoms, Feb. 18, wild grape, Feb. 27 (Doz.); velvet beans (Wat.). Known in economic literature as the "grape-vine flea-beetle."

*178 (15918). **H. nana** Cr.—"South Carolina to Florida" (Horn, 1889). Biscayne Bay (Sz. Ms.). Mt. Dora, Aug.; Gainesville, on *Eupatorium* (Wat.). At hand from Gainesville (Fattig) and Dunedin. Rare at Dunedin, Nov.-Apr., on foliage in sandy open woods. One of the smallest (2 mm.) members of the genus.

*179 (15926). **H. litigata** Fall, 1910, 154.—Type from Enterprise. Throughout the State; recorded as *H. ignita* (Ill.) from numerous stations. At hand from nine localities, Nov.-Apr. Common on the water purslane, *Ludwigia palustris* Ell.; also beneath debris and decaying vegetation about the margins of ditches, ponds and lakes, and occasionally at porch light (Bl., 1923). Fall *(loc. cit.)* assumes that typical *H. ignita* is a "brilliant coppery-golden form of the Middle Atlantic States," whereas *litigata* is blue with protruding eyes and dull brown tibiae and tarsi.

*180 (15927). **H. schwarzi** Blatch., 1914, 141.—Types from Utopia on L. Okeechobee. Taken also at Pahokee and Ft. Myers. Occurs on low vegetation along the edges of lakes and streams. Piceous, strongly bronzed. (4.2-4.5 mm.).

*181 (15928). **H. vaccinia** Blatch., 1916, 95.—Types from Dunedin. At hand also from Caxambus and Ft. Myers. Common about Dunedin, Dec-Apr., on the flowers and foliage of dwarf huckleberry. Uniform dark coppery red. (3-3.2 mm.).

182 (15932). **H. vicaria** Horn, 1889, 222.—"Massachusetts to Florida westward to Colorado and Arizona" (Horn). No other record.

*183 (15942). **H. marevagans** Horn, 1889, 226.—"Along the seacoast region from Florida to New Jersey" (Horn). Pablo Beach and New Smyrna. (Sz. Ms.). Gainesville on *Oenothera*, riddling the plant; also on *Jussieua* Apr.-Sept. (Doz.); maple, June, *Helenium* July, *Solidago* Oct. (Wat.). Scarce on Hog Island, opposite Dunedin, Feb. 5-Mch. 25, on the sea purslane, *Sesuvium maritimum* Walt. (Bl. 1917); also at porch light, July 5.

184 (15953). **H. floridana** Horn, 1889, 230.—Types from Biscayne Bay. No other record.

185 (15954). **H. burgessi** Cr., 1873, 71.—Types from Key West. No other record. The smallest Haltica (1.5-1.7 mm.) known.

*186 (15955). **H. rufa** Ill.—Throughout the State. At hand from six localities, Jan.-Apr. Common at Dunedin, hibernating beneath cover along ponds and marshes, and in Spanish moss, and in spring on low herbage in moist localities.

In addition to the ten species of *Haltica* above mentioned Leng, in his Catalogue, includes *H. carinata* Germ. and *H. torquata* Lec. from Florida. His record for the first is probably based on the *H. exapta* Say. of the Schwarz list, a synonym of *H. carinata,* but Schwarz (Ms.) changes this to *ignita* Ill., which I have included above as *litigata* Fall. Of *H. torquata* Lec. I can find no Florida record, and as Horn makes it a synonym of *carinata,* I have not included it, especially as Fall (Ms.) says: "Almost surely does not occur in Florida."

XLVI. **Lactica** Erichson.

Small oblong-oval, shining species (3-4.5 mm.), pale yellow or with elytra blue. Closely allied to *Haltica* but having the basal impression of thorax limited each side by a longitudinal fold; elytra nearly smooth. Habits unknown.

187 (15960). **L. tibialis** (Oliv.).—St. Augustine (Ham.). Miami (Sz.Ms.). "North Carolina to Florida and Louisiana." Horn (1889).

188 (15961). **L. iris** (Oliv.).—The type of *L. specularis* Harold, a synonym, was from "Florida."[6] No other State record.

XLVII. **Diphaulaca** Clark.

Very small oval glabrous convex species (2 mm.), differing from *Lactica* in the elytra having rows of coarse punctures; thorax reddish-yellow, elytra piceous-black.

189 (15964). **D. bicolorata** Horn.—Enterprise, Apr. 19 (C. & L.). Gainesville, on red buckeye, *Aesculus pavia* L., Mch. (Wat.).

XLVIII. **Crepidodera** Chevrolat.

Small oval, convex glabrous species (2-2.5 mm.) having the front coxal cavities closed behind; elytral punctures in rows; ante-basal groove of thorax limited each side; antennae half the length of body; color greenish-bronzed, brown or black.

*190 (15968). **C. helxines** (Linn.).—"Tampa, rare" (Sz.). Jacksonville

[6]Horn, Trans. Amer. Ent. Soc., VIII, 1880, 151.

(Sz. Ms.). At hand from Sanford and Pahoka, Mch.-Apr., one specimen from each place. A very common species in Indiana but evidently scarce in Florida. Occurs on willow, elm and other foliage.

*191 (15974). **C. atriventris** Melsh.—"Enterprise and Tampa, rare." (Sz.). At hand from Okeechobee City and Dunedin, Feb. 6-Mch. 27. In February beaten from Spanish moss; in March on ferns and other herbage in dense hammocks or along their edges.

XLIX. **Epitrix** Foudras.

Very small, oval, convex black or brownish species (1.5-2 mm.), close to *Crepidodera* but having the upper surface rather thickly clothed with short, erect grayish hairs.

192 (15981). **E. lobata** Cr.—"New Smyrna", rare (Sz.). Indian River (Sz. Ms.). No other State record.

*193 (15982). **E. cucumeris** Harr.—Moore Haven, mouth of Hillsboro Canal and other points on L. Okeechobee, Mch. 20-24; swept from vegetation in gardens and said to do much damage to egg plant, cucumbers and other truck crops of that region (Bl. 1923). The only State record.

*194 (15983). **E. brevis** Sz., 1878, 367.— Types from Ft. Capron and Enterprise. St. Augustine and L. Worth (Ham.). Frequent about Dunedin in March on ferns and other foliage in hammocks and low moist ground. Gainesville on *Eupatorium*, Oct.; on *Aesculus pavia*, Mch. (Wat.).

*195 (15984). **E. fasciata** Blatch., 1918, 56.—Types from Dunedin. At hand also from Caxambus, Key West and Cape Sable. A submaritime species found in spring on low herbage along the margins of salt water lagoons.

*196 (15986). **E. parvula** (Fabr.).—Throughout the State. Listed by Schwarz as *E. hirtipennis* Melsh., a synonym. Frequent about Dunedin, Mch.-Apr., on ground cherry and other low vegetation in moist grounds. Known as the "tobacco flea-beetle" as it often riddles the leaves of that plant, thereby preventing their use for cigar wrappers.

L. **Orthaltica** Crotch.

Small oblong, parallel glabrous species (2-2.5 mm.), brown or piceous in hue, having the ante-basal thoracic groove not limited each side, and antennae as long as or longer than body.

197 (15988). **O. copalina** (Fabr.).—"Occurs from Massachusetts to Florida, westward to Missouri and Iowa" (Horn, 1889). No definite State record. Occurs in Indiana on sumac and Hercules' club, *Aralia Spinosa* L.

LI. **Mantura** Stephens.

Small oblong-oval, convex species (2 mm.), brownish-bronzed in hue, the tips of elytra paler; thorax without transverse basal impression, but with a short deep longitudinal one each side of base; elytral punctures in rows.

*198 (15993). **M. floridana** Crotch, 1873, 73.—Types from "Florida, Louisiana and Pennsylvania." At hand from Sanford and Dunedin, Mch.-Apr. Occurs in March by hundreds on a species of dock, *Rumex*, growing along the bay beach at Dunedin; also on other herbage in low moist grounds.

LII. **Chaetocnema** Stephens.

Very small, oval, convex black or brownish glabrous species (1.8-3 mm.), having the thorax without basal impression, hind tibiae sinuate and toothed above near apex; elytral punctures in rows; first two ventral segments connate.

*199 (16000). **C. brunnescens** Horn, 1889, 259.—Types from Key West, Punta Gorda and Miami (Sz. Ms.). A submaritime species, at hand from Key West, Cape Sable and Dunedin. Frequent near Dunedin, Nov.-Feb., on the foliage of button-wood and other low shrubs growing near tidewater lagoons.

200 (16001). **C. denticulata** (Ill.)—"Enterprise and Cedar Keys, rare" (Sz.). St. Augustine (Ham.).

*201 (——). **C. floridana** Blatch., 1923, 33.—Types from Dunedin and Lakeland, Dec.-Mch.; taken by sweeping huckleberry and other low vegetation in open pine woods. This is the species I erroneously recorded (1919, 66) as *C. cribrifrons* Lec.

*202 (16003). **C. pinguis** Lec., 1878, 417.—Types from Enterprise and New Smyrna. At hand from Lakeland, Istokpoga and Dunedin, Dec.-Mch. Occurs on low vegetation along the margins of lakes and beneath cover on the bay beach.

*203 (16006). **C. minuta** Melsh.—"Florida" (Horn, 1889). Gainesville (Wat.), Scarce at Dunedin, Mch. 2-30, on herbage growing in low moist ground.

*204 (16008). C. alutacea Cr., 1873, 74.—Types from "Florida." "Common on swampy meadows" (Sz.). St. Augustine (Ham.). Biscayne Bay and Haw Creek (Sz. Ms.). Dunedin, rare, Apr. 8, by sweeping along the margin of a dense hammock (Bl. 1923).

*205 (——). **C. robusta** Blatch., 1923, 33.—Types from Hog Island, opposite Dunedin, where it occurs in some numbers on *Batis maritima* and other herbage growing in areas flooded at high tide. The largest (2.7-3 mm.) of the Florida species of the genus.

*206 (16011). **C. obesula** Lec., 1878, 418.—Types from L. Ashley and Baldwin. Enterprise (Sz. Ms.). At hand from Pahoka, Moore Haven and Dunedin, Oct. 26-Mch. 27. In the truck lands about L. Okeechobee this is one of the three species of flea beetles which are said to do much damage to the crops, the others being *Epitrix cucumeris* and *Chaetocnema quadricollis*.

207 (16013). **C. parcepunctata** Cr.—"Common" (Sz.). The only State record.

*208 (16014). **C. pulicaria** Melsh.—St. Augustine (Ham.). Gainesville, on corn (Doz.). Dunedin, scarce, Dec.-Mch., on low herbage along the margins of ponds.

(To be continued)

The

FLORIDA ENTOMOLOGIST

Official Organ of The Florida Entomological Society, Gainesville, Florida.

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Issued once every three months. Free to all members of the Society.

Subscription price to non-members is $1.00 per year in advance; 35 cents per copy.

THE APHID SITUATION

The new citrus aphis has at last been identified. Dr. Baker of the U. S. Bureau of Entomology states that it is *Aphis spireacola Patch.*, an insect whose known distribution covers most of the United States. Miss Patch, who described the species, is now of the opinion that it is identical with *Aphis pomi,* the Green Apple Aphis. At the Station we have been able to readily transfer the aphis from citrus to apple.

The origin of the outbreak still remains a mystery. Has the insect only recently reached our citrus section, or has it recently developed a strain with an appetite for citrus, or has it been here on citrus in small numbers for many years to develop into a severe pest during the last two years because of weather or other favoring conditions? It is unfortunate that we cannot definitely answer that question, for on the answer hinges the probable future of the pest. If either of the first two guesses is the correct one, we may expect a prolonged fight. If the last is the true one, as Dr. Baker seems to think, we may look for a slump in its numbers perhaps as complete and sudden as its rise. Undoubtedly the aphids are fewer now than at any time since March. But the present ebb in numbers may be a seasonal rather than a permanent one. All aphids are always scarce at this season of the year and there was a similar slump in the numbers of the new aphis last summer. If the outbreak of last spring was caused by favorable weather conditions one would expect that there would

have been a similar rise in numbers of other species of aphids. This was distinctly not the case. The melon aphis, for example, was much less destructive than usual. Furthermore if this new aphis has been with us for many years is seems strange that the outbreak should have had a definite center of origin, near Tampa, from which it spread out in all directions. One would have expected the outbreak to have been simultaneous over at least most of the citrus belt.

MOSQUITO SURVEY OF BAMBOO KEY, FLORIDA

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During the month of January 1923, Dr. Joseph Y. Porter, President of the Key West Chamber of Commerce, wrote to Dr. L. O. Howard, Chief Bureau of Entomology, Washington, D. C., stating that he was going to send an inspector to Bamboo Key to investigate the truth of the report that there are no mosquitoes there, and find out the reason for such absence if true. He requested Dr. Howard to send the writer with this inspector. To the best of the writer's knowledge, Dr. Porter's proposed plan never materialized. However, at the request of Dr. Howard, a visit was made to Bamboo Key in January and again in October and the following is a brief report on the mosquito conditions existing there.

In July 1923, Dr. Howard received another letter regarding Bamboo Key from a Mr. S. C. Singleton of Miami, Florida. He wrote as follows: "There is a small island called Bamboo Key, about a half mile north of Key Vaca, and about midway of its length, that is immune from mosquitoes. I am aware of the fact that this will sound a bit like a crank story, but if you wish, what I say can be supported by affidavits from others. I took up a homestead on Ramrod Key; I am not talking hearsay. If what I say is so, then few matters are better worth your attention.

Right now, when from here to Key West, the mosquitoes are plain hell, and swarminng in the cockpit and cabin of your boat, you can anchor close to this island and they will leave your

boat and you can be out on the sand in your bathing suit, in comfort.

Once when sheep were pastured there, the immunity disappeared. Some time after the sheep were taken away, the Key became again immune. This is the reason why I think it is a problem coming under the jurisdiction of the Bureau of Plant Industry.

If it is a plant that can be propagated, then oil or gold deposits would not add as much to the wealth of this State as the application of the knowledge of this fact. I am not able to undertake a proper investigation. I would be very glad to give you every aid within my power. It is not a matter of especial bleakness. Mangrove grows along this shore. Mosquitoes are not in this mangrove. This condition has been known to exist for at least twenty years. I trust you will investigate."

Topography of Bamboo Key, Florida

Bamboo Key is a small island, about three acres in area, situated among the lower Florida Keys, approximately a half mile north of Key Vaca and about midway its length. No elevations of consequence occur, the highest point being about a foot above the water's edge. The south, east, and west shores are rocky, consisting of coral. The north shore is not as rocky and a little sand beach is to be found. For the most part the key is of a shell and coral formation. Low depressions and swampy places to afford breeding places for mosquitoes do not exist about the key, except for a few small crab holes along the shore. The writer was unable to find brackish or fresh water existing on any portion of the key during either visit there and conditions about the key were exceedingly dry.

Flora of Bamboo Key, Florida

For the most part the key is devoid of trees. The few trees that do occur are close to the water's edge, and are situated on the east and south shore, while the remainder of the key is overgrown with low growing plants and shrubs of various kinds. The trees are mainly the white mangrove or buttonwood *Laguncularia racemosa* (L.) Gaertn. and the red mangrove, *Rhizophora mangle* L. One or two Geiger trees, *Sebestin Sebestina* L., occur and a single coconut stands on the southwest

portion of the key. The writer was told that Bamboo Key was a bird roost at one time, and, if so, there apparently were more trees on the key than exist now. From reports the key was cleared and cultivated a number of years ago and parties resided there. The dwelling, however, was apparently destroyed by fire, parts of the foundation still remaining. The fact that this key was at one time cleared and cultivated apparently accounts for the lack of more trees, the mangrove occurring along the shore springing up after the key was abandoned.

During the second visit to Bamboo Key the writer had the use of a boat generously furnished by Mr. Hugh Matheson who owns Lignum Vitae Key and also a large portion of Upper Mathecombe Key where he operates a lime plantation. Capt. L. Cochron, Mr. Matheson's superintendent on Upper Mathecombe Key, took the writer to Bamboo Key. Capt. Cochron, who has lived on the Florida Keys for a number of years, stated after the survey of the key that he did not see a single plant growing there that does not occur on Upper Mathecombe Key or on some of the other keys. The writer made a careful collection of all plants growing on the key which have been determined by Dr. John Small of the New York Botanical Garden. The determinations are as follows: *Aloe* sp.; *Gayoides crispum* L.; *Cyperus brunneus* SW.; *Rondia aculeata* L.; *Spartina junciformis* E. & G.; *Galactia spiciformis* T. & G.; *Dolichus minimus; Atriplex cristata* HBK; *Heliotropium curassavicum* L.; *Suriana maritima* L.; Wild *asparagus; Chamaesyce buxifolia* Lam.; *Rivina humilis* L.; *Melanthera testator; Heliotropium parviflorum* L.; *Salicornia ambigua* M.; *Laguncularia racemosa* L.; *Monanthochloe littoralis* E.; *Waltheria americana* L.; *Distichlis spictata; Dondia linearis* M.; *Lyolina clostus; Gyssipum lersutum* and *Rliloxerus vermicularis.* From the data contained in Dr. Small's volume on the Flora of the Florida Keys, it appears that all the plants collected are also growing on other Florida Keys. The writer has also observed many of them growing on Grassy Key, Long Key, Lignum Vitae Key, and Upper Mathecombe Key.

Mosquito Conditions of Bamboo Key, Florida

Dr. Raymond Turck and the writer did not find any mosquitoes on Bamboo Key during the visit there in January 1923. January is not the month to find mosquitoes there, in fact, any-

where in southern Florida. On the writer's second visit to the key in company with Capt. L. Cochron, many specimens of *Aedes taeniorhynchus*, the brackish water mosquito, were collected. This was the only species of mosquito encountered on the key. Mosquitoes were not present on the boat while approaching the key from the north, but the minute we reached shore by means of a smaller boat carried with us, we were attacked. The writer's first impression on landing was not in the least encouraging; that, as reports had led him to believe, he would possibly find a solution for combatting the brackish water mosquito in Florida. He was not, however, greatly surprised when he did find plenty of mosquitoes there. The writer surveyed the entire key and stirred up mosquitoes wherever he went. In the mangrove the mosquitoes were quite plentiful, and in walking through the grass and shrubs, mosquitoes were encountered. These observations were made on October 5, the day being bright and quite warm. No doubt the mosquitoes would have been more numerous during the night. It is the writer's belief that mosquitoes do not occur in as large numbers on Bamboo Key as on Key Vaca or Grassy Key as well as some of the other keys in the vicinity. Bamboo Key is more or less wind swept. The vegetation is not as dense nor as high and hence does not afford nearly the harboring conditions for mosquitoes as the other keys which are covered with a much denser growth of mangrove and high growing trees and shrubs. Again mosquitoes were not found breeding on the key as they were on the other neighboring keys. It appeared that the mosquitoes occurring on the key migrated there from adjoining keys to the south and southeast, the prevailing winds aiding their migration from those directions. Bamboo Key might have been free from mosquitoes at one time but this is not true at present. It may be possible, however, that Bamboo Key is comparatively free from mosquitoes for very short periods during the summer months when mosquitoes are plentiful on some of the other keys. This would perhaps depend on the weather conditions at the time, and whether the wind was in a direction very unfavorable for their migration to the key.

PERSONALS

Dr. W. S. Blatchley has, at the invitation of the Florida State Federation of Women's Clubs which owns the park, undertaken

a natural history survey of Royal Palm Park (Paradise Key), south of Miami. Dr. Blatchley expects to devote a considerable part of his time for at least five years to this survey.

Dr. Cole has been secured to assist Mr. Yothers in the U. S. Bur. Ent. Laboratory at Orlando.

Mr. Homer Bratley, Assistant in Department of Biology in the University, has been employed during the summer by the Department of Entomology of the Experiment Station. He assisted with the experiments on nematode control. During the remainder of the year he will serve as a half-time assistant in the Department and will work on pecan insects.

Profs. Rogers and Hubbell of the Department of Zoology of the University spent their summer vacations collecting in West Florida, Michigan, and Eastern Tennessee.

Mr. F. F. Bibby has accepted a position with the Georgia State Board of Entomology with Mr. Jeff Chaffin.

According to Science, Dr. Frank E. A. Thone, assistant professor of Botany at the University last year, has been selected to direct the "Daily Science News Bulletin" which Science Service furnishes to newspapers.

THYSANOPTERA OF N. A.

Additions and a Correction

J. R. WATSON

The writer has recently received from Prof. Harry S. Smith of California specimens of a thrips infesting lily bulbs in Los Angeles Co., Cal. The insect proved to be *Liothrips vaneeckei* Priesner, hitherto known only from Europe.

Another addition to the American species of *Liothrips* is *L. urichi* Karny ("A New Liothrips from Trinidad," Ann. Mag. Nat. Hist., 9. XII.)

The late Prof. R. C. Treherne in the Canadian Entomologist records the following new species from B. C.: *Thrips physapus* L.; *Taeniothrips lemanis Treherne, T. vulgatissimus* Hal. var. *meridionalis* Pries., *T. pallipennis* Uzel, *T. orionis Treherne,* and *Frankliniella nubila* Treherne.

An examination of a larger series of the author's Phloeothrips drakei reveals that it is identical with *Acanthothrips karnyi* Hood.

Dr. H. Priesner of Austria recently called the writer's attention to the fact that his *Dictyothrips floridensis* is an *Echinothrips*. Comparison with Morgan's *E. americana* shows that they are apparently identical.

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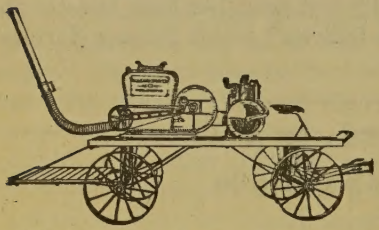

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